

CLAIMS

I We claim:

1. A cell culture comprising proliferating human neural stem cells wherein the cells have a doubling rate faster than 30 days.
2. A cell culture comprising proliferating human neural stem cells wherein the cells have a doubling rate of 5 - 10 days.
3. A cell culture comprising human forebrain-derived neural stem cells.
4. A cell culture comprising differentiated human neural stem cells, and comprising greater than 10% neurons.
5. The culture of claim 4 wherein the cell culture comprises at least 20% neurons.
6. The culture of claims 4 or 5 wherein, of the neurons present, at least 20% are GABA positive.
7. A culture media for proliferating mammalian neural stem cells, the media comprising cell viability and cell proliferation effective amounts of the following components:
  - (a) a standard defined culture medium;
  - (b) a carbohydrate source;
  - (c) a buffer;
  - (d) a source of hormones;
  - (e) one or more growth factors that stimulate proliferation of neural stem cells;
  - (f) LIF.
8. The media of claim 7 wherein heparin is also present.

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9. A composition for use in transplantation comprising mammalian neural stem cells, wherein said cells are substantially formed into neurospheres of a diameter between 10-500  $\mu\text{m}$  in diameter.
10. A method for protecting, repairing or replacing damaged tissue in a patient comprising transplanting mammalian neural stem cells comprising mammalian neural stem cells, wherein said cells are substantially formed into neurospheres of a diameter between 10-500  $\mu\text{m}$  in diameter.
11. A cell culture comprising differentiated human neural stem cells, wherein said differentiated cells comprise glioblast cells.

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